

being unpatentable over Michels et al (U.S. '144, hereinafter “Michels”) in view of Sekine et al (U.S. '188, hereinafter “Sekine”). Applicant respectfully traverses this rejection.

In order to establish a prima facie case of obviousness, all of the claimed limitations must be taught or suggested by the prior art and there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.

Applicant respectfully submits that the combination of Michels and Sekine fails to teach or suggest each element of the claimed invention. For example, Applicant submits that the combination fails to teach or suggest a first table (referred to as the “pointer table” in claims 1-5) containing entries including “a network address” and an “associated pointer” (or an “address pointer” in claims 4 and 5), wherein the pointers in this first table point to entries in a second table (referred to as the “data table” in claims 1-5) containing entries including a “media access control address” (claims 1-5). Similarly, Applicant submits that the combination fails to disclose “a first data table” having entries which include “a network address” and “a pointer” which points to entries in “a second data table” having entries including “a destination media access control address” as required by claims 6-11. In short, the combination of Michels

and Sekine fail to disclose a first table having pointers to a second table that contains media access control (MAC) destination addresses.

The present invention required by pending claims 1-11 therefore relates to a pair of tables in which the second table (i.e., the table that is being pointed to) contains MAC addresses. Through this claimed feature, the network addresses and corresponding MAC addresses may be separated into two tables so as to enable pointers from various different network addresses to point to the same MAC address. A more compact storage of data may therefore be accomplished as the second (MAC address) table does not have to store multiple (i.e., redundant) copies of the same address.

Michels fails to disclose the above claimed features. In particular, Figs. 4 and 9 present alternatives which do not involve a teaching of pointers from a network address to a MAC address as required by the present invention. Whether a search is directly performed or employs pointers according to Fig. 4 or 9, the table of Michels which is accessed via the search contains the network address and the forwarding data. Michels therefore does not disclose a first table having pointers to a second table that contains MAC destination addresses. The Office Action apparently concedes this point. In particular, the Office Action admits on page 6, lines 1-4, "Michels does not disclose a pointer table of which the entries each comprise a network address and an associated pointer to an

entry in the said data table, which comprises media access control address and an identification of a port.”

However, the Office Action alleges that “However, it would have been obvious...because Sekine (figures 8 and 10), for example, discloses pointers pointing to the table of MAC addresses along with network addresses associated with MAC addresses.” (See page 6, lines 5-8 of the Office Action). Applicant respectfully disagrees with this allegation. Sekine fails to teach or suggest pointers to a combined network address/MAC address table as alleged. Moreover, Sekine fails to disclose pointers from a table having a network address to a data table having a MAC address, and therefore fails to remedy the above-discussed deficiencies of Michels.

Figure 8 of Sekine illustrates a packet buffer (see also column 4, lines 46-47) and only has pointers to the next buffer and (when relevant) succeeding buffer if the packet spans a plurality of buffers. Figure 10 illustrates an address learning table 42 (see also column 12, lines 13 to 24) which has a learning ability derived from source addresses and ports and provides destination port information when the destination is read from the packet buffer. At this stage of the process, which uses bridge processing means 3, only the MAC address and ports are considered.

The third layer destination network address is handled via routing processing means 5, which references a routing table 61 (shown in detail

in Figure 11) and an Address Resolution Protocol table 62 (shown in detail in Figure 12). If there were a pointer from the network (IP) address back to the table illustrated in Figure 10, the structure illustrated in Figures 11 and 12 would not be required. However, the system of Sekine has no facility or suggestion of this. The combination of Sekine and Michels therefore fails to teach or suggest the claimed pointer table and data table. Sekine also fails to assist in reducing the need for a table having a width of an IP address and MAC address, or in eliminating multiple MAC entries where multiple network (IP) addresses have the same MAC address and port, which stem from the pointer system of the present invention.

Dependent claim 2 further requires pointers from different network addresses pointing to the same MAC address (or relevant port). This claimed feature is made possible via the pointers and the separation of the network addresses and MAC addresses required by base claim 1. The combination of Sekine and Michels fails to teach or suggest this claimed feature.

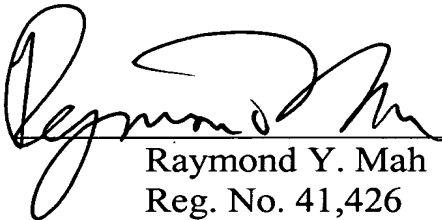
Accordingly, Applicant respectfully submits that claims 1-11 are not "obvious" over Michels and Sekine and respectfully requests that the rejection of these claims under 35 U.S.C. §103 be withdrawn.

Conclusion:

Applicant believes that this entire application is in condition for allowance and respectfully requests a notice to this effect. If the Examiner has any questions or believes that an interview would further prosecution of this application, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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